

A high-level monthly briefing on operations and activities at the U.S. Department of Energy's Idaho National Laboratory
Work at the lab advances the Department's strategic goals in the areas of energy, environment, defense and science.

■ Medical Isotope Test to be Conducted at Advanced Test Reactor

Idaho National Laboratory and IsoRay Medical, Richland, Wash., are evaluating the possibility of producing an important cancer-treating isotope in INL's Advanced Test Reactor. Following pretest analysis, capsules containing barium-carbonate will be placed into ATR and irradiated to produce cesium-131, which IsoRay would supply to medical facilities to treat prostate cancer. Isotope production could start in spring 2006. David Richardson, INL's Nuclear Operations associate laboratory director, said the laboratory is excited to perform this work. "Isotope production is a core mission for the ATR," Richardson explained. The IsoRay project is fully compatible with the ATR's current missions and will not affect any other tests being done in the reactor, nor will it adversely impact any future missions. The project is significant because using the ATR to make this important isotope has the potential to bring a new high-tech facility and 100-150 high-tech, good-paying jobs to Idaho should IsoRay decide to relocate a portion of its operations to Pocatello.

■ INL Wins Prestigious Homeland Security Award

The Christopher Columbus Fellowship Foundation in Washington, D.C., has presented its 2005 Homeland Security Award to the Idaho Explosives Detection System and its team of inventors. The system, developed by INL scientists, can quickly and safely determine whether explosives are concealed within cargo containers or trucks. The Idaho Explosives Detection System uses high-energy neutrons to cause nuclear excitation of materials within the cargo. Specialized detectors then "read" the signature gamma rays that result to verify the presence of explosives. The annual Homeland Security Award competition honors cutting-edge innovations that make measurable and constructive contributions in research and development in the area of homeland security.

■ Idaho Scientists Continue Research on Methane-making Microbes

In research that could have consequences in both the energy supply and global climate change arenas, INL scientists have been working with peers at the University of Idaho and the U.S. Geological Survey to try to develop models that more accurately reveal where microbes are likely generating the largest quantities of methane hydrates. Domestically, the USGS estimates some 200,000 trillion cubic feet of methane is stored in hydrates – more than 100 times the volume of gas stored in recoverable conventional reserves. Since methane forms an important link in the global carbon cycle, this work also has implications for climate science.

■ Idaho-based Effort Addresses Shortage of Nuclear Engineers

A private company, Idaho's three universities and Idaho National Laboratory are taking an innovative approach to address the expected shortage of nuclear engineers nationwide by offering a new 2 + 2 Scholars Program. AREVA Inc. is providing \$250,000 over the next five years to pay for scholarships and other expenses for students at Idaho's three state universities who are interested in becoming nuclear engineers. By participating in the 2 + 2 Scholars Program, students can complete their first two years of an engineering degree at Idaho State University, Boise State University or the University of Idaho, before finishing the final two years of undergraduate study in nuclear engineering at ISU in either Pocatello or Idaho Falls. Participants will also receive practical experience and instruction at INL.

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